

STANDARD 6: TECHNOLOGY AS A TOOL FOR PROBLEM SOLVING AND DECISION-MAKING

Students use technology to make and support decisions in the process of solving real-world problems.

Note: Problem solving is inherent in all disciplines. Technology Standard 6 is designed to provide a cumulative (capstone) experience

See: Science 3SC in its entirety and Workplace Skills 3WP in its entirety

READINESS (Kindergarten)

No concepts identified for this level

FOUNDATIONS (Grades 1-3)

Students know and are able to do the following:

- **6T-F1. Use technology resources for problem solving, self-directed learning and extended learning activities**

PO 1. Based on a class-defined problem, use technology to:

- a) collect data
- b) interpret data
- c) express a solution to the problem

PO 2. Based on a problem selected by the student, use technology to:

- a) collect data
- b) interpret data
- c) express a solution to the problem

ESSENTIALS (Grades 4-8)

Students know and are able to do all of the above and the following:

- **6T-E1. Determine when technology is useful and select and use the appropriate tools and technology resources to solve problems**

PO 1. Based on a problem selected by the student, identify and use appropriate technology tools to:

- a) collect data (e.g., counting versus using a probe, book index versus online index)
- b) interpret data (e.g., use of a spreadsheet instead of a graphic organizer)
- c) develop a solution to the problem (e.g., creating a model versus using a spreadsheet)
- d) present findings (e.g., create a poster versus an electronic presentation)

PROFICIENCY (Grades 9-12)

Students know and are able to do all of the above and the following:

- **6T-P1. Investigate technology-based options, including distance and distributed education for lifelong learning**

See: Workplace Skills (1WP-P9)

- PO 1. Locate and use an online tutorial and discuss the benefits and disadvantages of this method of learning
- PO 2. Research a career and predict the advanced training needed to maintain success in the career
- PO 3. Design and implement a personal learning plan that utilizes technology (e.g., identify a topic such as an academic interest, personal hobby, health issue, or potential job sources, and utilize research skills from Standard 5 to support lifelong learning)

- **6T-P2. Routinely and ethically use productivity tools, communication tools and research skills to solve a problem**

See: Mathematics (2M-P7-8)

- PO 1. As a capstone experience in a content area, solve a problem using appropriate technology tools to:
 - a) identify the problem and formulate the strategy to solve the problem (e.g., brainstorming tools, flowcharting, online resources)
 - b) collect data (e.g., using GPS, PDA {personal digital assistant}, Internet, probeware, recordings)
 - c) interpret data (e.g., visualization, simulation, or modeling software)
 - d) develop a solution to the problem
 - e) present findings (e.g., electronic presentation, Web page, professionally formatted document, computer model, audio or video presentation, Web streaming)

DISTINCTION (Honors)

Students know and are able to do all of the above and the following:

- **6T-D1. Collaborate with peers, experts and others to compile, synthesize, produce and disseminate information and models for the purpose of suggesting solutions to a complex problem**

See: Science (1SC-D1)